

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XC109NM

Site Name: Loamy

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on level to strongly sloping piedmont slopes or plains. Slopes average 5 percent or less, although they may range as high as 15 percent. Aspect varies but is not significant. Elevation ranges from 5,000 to 7,000 feet above sea level.

Land Form:

1. Fan piedmont

2. Plain

3.

Aspect:

1. N/A

2.

3.

	Minimum	Maximum
Elevation (feet)	5,000	7,000
Slope (percent)	>5	15
Water Table Depth (inches)	N/A	N/A
Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of the area is "semi-arid continental."

The average annual precipitation ranges from 13 to 16 inches. Variations of 5 inches, more or less, are not uncommon. Seventy-five percent of the precipitation falls from April to October. Most of the summer precipitation comes in the form of high intensity-short duration thunderstorms.

Temperatures are characterized by distinct seasonal changes and large annual and diurnal temperature changes. The average annual temperature is about 50 degrees F with extremes of -29 degrees F in the winter and 103 degrees F in the summer.

The average frost-free season is 130 to 160 days. The last killing frost falling in early May and the first killing frost in early October.

Both temperature and precipitation favor warm-season perennial species. However, about 40 percent of the annual precipitation falls at a time favorable to cool-season plant growth. The soils of this site can store water from winter and early spring moisture for use by cool-season species. This allows the cool-season species to occupy an important component of this site. Strong wind from the west and southwest that blow from February to June can rapidly dry the soil profile during a critical period for cool-season plant growth.

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	131	173
Freeze-free period (days):	155	187
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.34	.92	15.6	42.1
February	.34	.81	19.9	52.9
March	.23	.98	24.4	59.7
April	.39	.96	31.4	68.9
May	.85	1.61	39.2	77.7
June	.89	1.62	46.9	87.1
July	1.77	2.75	53.1	88.5
August	2.46	3.22	51.9	85.7
September	1.54	2.26	44.3	80.4
October	1.00	1.51	32.8	70.5
November	.57	1.02	22.2	57.5
December	.34	1.16	15.9	49.3

Climate Stations:

Station ID	Location	Period	
		From:	To:
291918	Clines Corners 7 SE, NM	12/10/68	11/30/00
292096	Corona 11 SSW, NM	12/01/77	09/30/92
293060	Estancia, NM	01/01/14	12/31/00
293649	Gran Quivira Natl. Monument, NM	06/01/38	12/31/00
295965	Mountainair, NM	03/01/14	12/31/00
299405	Vaughn, NM	01/01/71	12/31/00

INFLUENCING WATER FEATURES**Narrative:**

This site is not influenced by water from a wetland or a stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils of this site are well drained, moderately deep to deep. The surface texture varies from fine sandy loam to silty clay loam and clay loam. Soil permeability is moderate to moderately slow. Available water-holding capacity is moderately high to high. As vegetative cover decreases, the intake rate and water-holding capacity also decreases. If the soil is not adequately covered, wind and water erosion can be severe.

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1. Fine sandy loam

2. Silty clay loam

3. Clay loam

4. Loam

5. Sandy clay loam

6. Silty clay

7. Gravelly loam

8. Cobbly loam

Surface Texture Modifier:

1. Gravel

2. Cobble

3.

Subsurface Texture Group: Fine sandy loam

Surface Fragments ≤3" (% Cover): 15 to 35

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments ≤3" (%Volume): 15 to 35

Subsurface Fragments ≤3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Well</u>
Permeability Class:	<u>Very Slow</u>	<u>Moderately Slow</u>
Depth (inches):	<u>8</u>	<u>>72</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>8.00</u>
Sodium Absorption Ratio:	<u>0.00</u>	<u>4.00</u>
Soil Reaction (1:1 Water):	<u>6.1</u>	<u>9.0</u>
Soil Reaction (0.1M CaCl₂):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>2</u>	<u>8</u>
Calcium Carbonate Equivalent (percent):	<u>N/A</u>	<u>N/A</u>

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic climax plant community

The potential plant community of this site is a mixed grassland of warm and cool-season, mid and short perennial grasses. Woody species occupy a minor, but more important, part of this plant community. Forbs are a minor component of this site. However, during years of abundant spring and fall moisture, a large variety of forbs occur throughout this site.

Canopy Cover:

Trees 0 – 2 %

Shrubs and half shrubs 2 – 5 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 15 – 18

Bare ground 45 – 55

Surface cobble and stone 5 – 20

Litter (percent) 8 – 10

Litter (average depth in cm.) 2

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	340	808	1,275
Forb	32	76	120
Tree/Shrub/Vine	32	76	120
Lichen			
Moss			
Microbiotic Crusts			
Totals	400	950	1,500

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	PASM	Western Wheatgrass	142 - 190	142 – 190
2	BOGR2	Blue Grama	142 - 190	142 – 190
3	PLJA	Galleta	95 - 142	95 – 142
4	ELEL5	Bottlebrush Squirreltail	48 - 67	48 – 67
5	BOCU SCSC	Sideoats Grama Little Bluestem	95 - 142	95 – 142
6	PAOB	Vine-mesquite	48 - 95	48 – 95
7	BOER4	Black Grama	48 - 67	48 – 67
8	SPCR SPCO4	Sand Dropseed Spike Dropseed	48 - 76	48 – 76
9	SPAI	Alkali Sacaton	29 - 48	29 – 48
10	ARISTDA	Threeawn spp.	19 - 48	19 - 48
11	PAHA PAVI2 ERIN	Halls Panicum Switchgrass Plains Lovegrass	48 - 95	48 – 95
12	2GRAM	Other Grasses	48 - 95	48 - 95

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	ASDR3 VICIA	Drummond Milkvetch Redstemmed Milkvetch	10 - 19	10 – 19
14	OXYTR	Locoweed spp.	10 - 19	10 – 19
15	ERIOG	Wild Buckwheat	10 - 19	10 – 19
16	SPCO	Scarlet Globemallow	10 - 19	10 – 19
17	SEFLF	Threadleaf Groundsel	10 - 19	10 – 19
18	2FORBS	Other Forbs	10 - 19	10 – 19

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
19	ATCA2 KRLA2 EPHED	Fourwing Saltbush Winterfat Ephedra	48 - 67	48 – 67
20	LYPA FAPA	Pale Wolfberry Apacheplume	29 - 48	29 – 48
21	GUSA2 ERNAN5	Broom Snakeweed Rubber Rabbitbrush	29 - 48	29 – 48
22	2SD	Other Shrubs	10 - 48	10 - 48

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: wolftail, cane bluestem, silver bluestem, prairie junegrass, pinyon ricegrass, Indian ricegrass, New Mexico feathergrass, needleandthread, green needlegrass, mesa dropseed, spike muhly, Metcalfe muhly, curlyleaf muhly, buffalograss, burrograss, ring muhly, mat muhly, sandhill muhly, red muhly, Poa spp., and carex spp.

Other shrubs include: skunkbush sumac, littleleaf sumac, sacahuista, yucca spp., Bigelow sagebrush, fringed sagewort, pricklypear, pinyon, juniper and algerita.

Other forbs include: Rocky Mountain beeplant, marigold yarrow, ragweed, wooly Indianwheat, whorled milkweed, tansymustard, fiddleneck, and Indian paintbrush.

Plant Growth Curves

Growth Curve ID **4309NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mixed warm/cool-season short/mid perennial grasses with a minor shrub and forb component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for wildlife:

This site produces a habitat which supports a resident animal community characterized by pronghorn antelope, blacktailed jackrabbit, badger, Gunnison's prairie dog, banner-tailed kangaroo rat, Botta's pocket gopher, burrowing owl, mourning dove, chipping sparrow, sparrow hawk, meadow lark, western spadefoot toad, leopard lizard, short-horned lizard, prairie rattlesnake, coyote, common raven, and prairie falcon hunt over this site.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Ancho	B
Alicia	B
Calabasas	B
Carnero	C
Cerrillos	B
Chupadero	C
Clovis	B
Darvey	B
Deacon	B
Dioxice	B
Hagerman	C
Hightower	C
Jarita	C
Kim	B
La Fonda	B
Nogal	C
Pastura	B
Pena	B
Penistaja	B
Purcella	B
Quintana	B
Rance	C
Rednun	C
Remunda	C
Ribera	C

Rock Outcrop	B
Scholle	B
Sharps	C
Silver	C
Tapia	C
Teco	B
Threadgill	B
Wilcoxson	C
Witt	B

Recreational Uses:

This site offers fair to good potential for hiking, backpacking, and horseback riding. Due to the lack of water and shade, it has limited potential for camping, and picnicking. Hunting for antelope, small game, and birds is good. Trapping for fur-bearing animals is fair. The natural beauty of this site is enhanced during years of abundant early spring and fall moisture by a wide variety of wildflowers that bloom throughout the landscape.

Wood Products:

There is no potential for wood products on this site. However, in areas where juniper and pinyon have invaded or have increased and are established, it is possible to harvest a limited amount of fencing material and fuelwood.

Other Products:

Grazing:

This site is suited for grazing by all kinds and classes of livestock during all times of the year. However, it is poorly suited to continuous yearlong grazing or grazing continuously during the growing season. Under such use, species such as western wheatgrass, bottlebrush squirreltail, sideoats grama, little bluestem, vine-mesquite, black grama, fourwing saltbush, and winterfat will decrease in composition. Typical site deterioration is characterized by low-vigor sod-like blue grama which will eventually become 80 to 95 percent of the plant community. This condition cuts the productivity of this site to almost nothing. Further deterioration is typified by an increase in bare ground, and an invasion of woody species such as juniper and pinyon, along with an increase in ring and may muhly and broom snakeweed. Predator control should be considered when using this site for calving or when running sheep or goats.

Other Information:**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

Similarity Index	Ac/AUM
100 - 76	2.0 – 3.1
75 – 51	2.7 – 3.9
50 – 26	3.6 – 5.8
25 – 0	5.8+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Halls Panicum	Panicum hallii	EP	D	D	D	D	P	P	P	P	P	P	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Wildbuckwheat	Eriogonum species	EP	U	U	D	D	D	D	D	D	U	U	U	U

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	U	U	U	U	U	U	U
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Fourwing Saltbush	Atriplex canescens	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Wildbuckwheat	Eriogonum species	EP	U	U	D	D	D	D	D	D	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: Chavez, De Baca, Guadalupe, Lincoln, San Miguel, Santa Fe, Torrance

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Chaves, De Baca, Guadalupe, Lincoln, Sna Miguel, Santa Fe, Torrance.

Characteristic Soils Are:

Alicia, Ancho, Bernal, Calabasas, Carnero	Cerrillos, Chupadera, Clovis, Darvey, Deacon
Dioxice, Hagerman, Hightower, Jarita, Kim	La Fonda, Nogal, Pastura, Pena, Penistaja
Purcella, Quintana, Rance, Rednun, Remunda	Ribera, Rock Outcrop, Scholle, Sharps, Silver
Tapia, Teco, Threadgill, Wilcoxson, Witt	

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	02/02/82	Donald H. Fulton	03/03/82

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	06/19/02	George Chavez	12/17/02